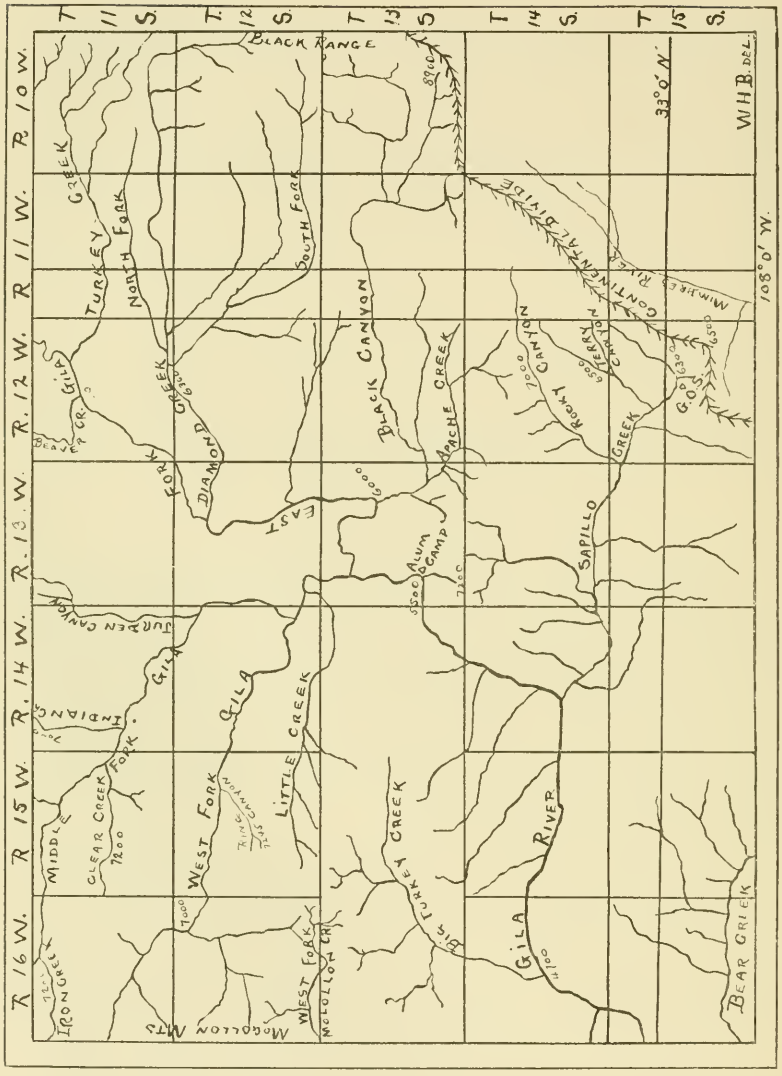
must be because even the birds grow weary by activity and become drowsy with overpowering sleep after the sun is withdrawn and even while a deep glow remains in the western sky delaying the darkness of night, while in the morning, refreshed by the night's sleep, these songsters respond to the first glimmer of dawn in the east by awakening to sing before any perceptible light has been diffused around, reinvigorated, buoyant, eager for the activities and joys of the new day.

OCTOBER BIRDS OF THE HEADWATERS OF THE GILA RIVER, NEW MEXICO.

BY W. H. BERGTOLD, M. D.

THE area in which the following records were made extends about forty-two miles east and west, and about thirty miles north and south: it is bounded on the east by the Black Range, which forms the continental divide, and too, the watershed between the Gila and the Rio Grande: on the south it is bounded by the Pinos Altos Mountains and their spurs, while to the north the area emerges in a mesa formation which, extending northward, terminates in the San Augustine Plains.

The Gila arises in this area from converging tributaries, runs westerly and leaves it near the southwest corner. As a whole, it is a wild and beautiful country, very sparsely settled, traversed by many streams, several of which are living throughout the entire year, and have eroded deep and picturesque canyons through which they now flow. Along these river bottoms, especially the main Gila, its three forks, Black Canyon, and Big Turkey Creek, there is a striking growth of cottonwood, sycamore, alder, walnut, boxelder, and ash, these trees being covered in many localities, by an abundance of wild grape and clematis vines, a growth which in the fall helps to paint a landscape of splendid color and striking effect.



MAP OF THE HEADWATERS OF THE GILA RIVER, NEW MEXICO.

The streams have carved the country into many rough hills and mountains, and, too, have left much mesa land between their canyons. The higher portions are well timbered with yellow pine (old and young growth), white pine, red and white spruce, and balsam fir, and with quaking aspen, the last especially in locations which have been fire swept. Lower down, and over more dry portions, there is a varyingly dense chaparral of juniper, piñon, scrub oak, and in those parts approaching desiccation, one finds mesquite, greasewood, and cactus.

The altitudes vary from 4700 feet at the junction of Big Turkey Creek and the Gila, to over 10,000 feet on Mogollon Mountain, and Black Range, where there are points nearly as high as on Mogollon.

The area is thus, east, south, and west, bounded by mountains of considerable height; the surface slopes rather gradually from the centre of the area to the higher margins, a condition preventing too rapid flow of precipitation to the lower levels, resulting in good forestation over a large portion of the country: Rixon [1] in his report on the forest conditions of the then "Gila Forest Reserve" (the area with which we are dealing forming nearly one third of this reserve) states that only about twenty-six per cent. of it is naturally timberless.

The region in its general characteristics and conditions, lends itself, as it were, to a variety of climates: in summer the lower portions approach closely the climate of southern Arizona, while at the same time the higher parts are almost alpine in nature; these two zones being separated by but a few miles, the area thereby forms a region of unusual zoological interest. It is highly probable that a thorough and systematic ornithological study of this area from one end of the year to the other would bring to light many points of considerable biological value.

The writer has visited, during October of each year since 1906, nearly all parts of the area under consideration, but he has been unable to do any extensive collecting, as these visits have always been by means of "pack outfits," and with no adequate facilities for preserving skins. Nevertheless they have made possible a

[1] Forest Conditions — Gila River, Forest Reserve, New Mexico. Theo. F. Rixon, Washington, 1905.

considerable list of birds collected or otherwise identified in the month mentioned: the list is of necessity incomplete, for it cannot include the large number of birds seen whose identity was suspected but not established beyond a reasonable doubt. This difficulty of identification is increased by the inherent peculiarities of the local bird fauna: many bird races overlap here and at times it is absolutely impossible to place a given bird in its subspecific niche without shooting it, which, during most of these trips, the writer was loath to do because he could not always preserve the skin.

Even with the skin in hand, there has been uncertainty as to the bird's exact relationship. A skin now in the writer's collection illustrates well the difficulties confronting him in recording the birds observed in this region, and too, the uncertainties which present themselves to present day bird taxonomists. It is that of a Junco, record No. 49 of the following list: the writer was quite uncertain as to the Junco race to which the bird belonged, and sent the skin, for identification, to two well known professional ornithologists. The first returned it saying, "It is impossible to state positively what the Junco is..... It is undoubtedly intermediate between typical *oreganus* and typical *shufeldti*, and, in my opinion, cannot be certainly referred to either"; and the second gentleman returned the skin with no comment but labelled, "*J. o. shufeldti*," under which identification it is here listed, not because this identification is of any greater value than the first, but as being the easiest way to untie the knot.

Another example, illustrating other difficulties one may meet in naming a species, is the skin of the bird recorded under No. 67 of this list; both of the above mentioned experts obviously agreed as to what it was, yet one called the bird "*Bœolophus wollweberi wollweberi* (= *B. annexus* Cassin)," and the second "*Penthestes wollweberi annexus*"![1]

It is with no captious feeling that the writer remarks on the increasing confusion and complexity of nomenclature in ornithological work, reflected by the above experiences. Ornithology is, with the writer, an avocation, not a vocation, and during the past

[1] It was to prevent such diversity as this, that the A. O. U. Check-List was published. The first expert identified the bird in accordance with the nomenclature of the List; the second according to his personal views, apparently without any explanation. [Ed.]

thirty years he has viewed with queer feelings the kaleidoscopic procession of names successively given to a species, the Robin, for example. It unquestionably is wise and correct to be guided by logical rules in such matters, and with this admission one may be permitted the hope that after a while *all* the older writings will have been unearthed, searched, and analyzed, and the exact priority as to a bird's name will have been determined.[1] Meanwhile, to one who loves the birds more when they are in the hills than when in the hand, and yet tries to add his mite to the grand total of ornithologic knowledge, the task of *trying* to remember the two or three more or less elusive and shifting scientific names of four hundred or more birds he may have become acquainted with during his lifetime, is hopeless — Ars longa, vita brevis.

Record No. 8, for obvious reasons, is made in the language of science.

It is a pleasure, as well as a duty, to here acknowledge with renewed thanks and appreciation, the unremitting kindness of Victor Culberson, Pres., J. B. Gilchrist, Treas., and R. F. Herndon, Secy., of the G. O. S. Cattle Co., without whose unfailing help these brief records could not have been made.

1. **Nettion carolinense.** Green-winged Teal.— Four seen on a small reservoir in Terry Canyon, Oct. 7, 1906.

2. **Ardea h. herodias.** Great Blue Heron.— Seen several times along the larger streams, the latest date being Oct. 24, 1911.

3. **Egretta c. candidissima.** Snowy Egret.— One taken Oct. 21, 1908, at the G. O. S. Ranch, previously recorded in Auk, January, 1909, p. 76.

4. **Actitis macularia.** Spotted Sandpiper.— More or less common on the larger streams. Latest date, Oct. 16, 1909.

5. **Oxyechus vociferus.** Killdeer.— Common on the larger streams. Latest date, Oct. 16, 1909.

6. **Lophortyx gambeli.** Gambel's Quail. Common on the lower levels of the entire area.

7. **Cyrtonyx montezumæ mearnsi.**— Locally known as the "Fool Quail." Common all over the area.

8. **Meleagris gallopavo merriami.**— Multi greges parvi videbantur per totam regionem.

9. **Columba f. fasciata.** Band-tailed Pigeon.— Seen in moderate numbers each year, in various portions of the area: — none seen in 1907;

[1] *cf* Notes and News, p. 431. [Ed.]

the latest date being Oct. 29, 1909, at the Alum Camp. Locally is called the "Passenger Pigeon," or the "Wild Pigeon."

10. **Zenaidura macroura carolinensis**. MOURNING DOVE.— Seen in very large numbers Oct. 22, and 23, 1907, at the mouth of Big Turkey Creek. One seen at Alum Camp, Oct. 28, 1909.

11. **Cathartes aura septentrionalis**. TURKEY VULTURE.— A few seen on Oct. 3, 1908, at the G. O. S. Ranch, and a considerable flock observed at the same place Oct. 6, 1911.

12. **Circus hudsonius**. MARSH HAWK.— A few seen at the G. O. S. Ranch each trip.

13. **Accipiter velox**. SHARP-SHINNED HAWK.— Several noticed at the G. O. S. Ranch during all of October, 1911.

14. **Buteo borealis calurus**. WESTERN RED-TAILED HAWK.— More less common all over the area, but not seen above 8000 feet.

15. **Aquila chrysaëtos**. GOLDEN EAGLE.— Seen once at the G. O. S. Ranch in 1906, and on Oct. 15, 1909, on Black Canyon.

16. **Falco sparverius phalæna**. DESERT SPARROW HAWK.— One seen Oct. 6, 1906, on the divide between the Mimbres River and Black Canyon, at an altitude of 8900 feet.

17. **Otus flammeolus flammeolus**. FLAMMULATED SCREECH OWL. — One noted on Iron Creek, Oct. 19, 1909.

18. **Bubo virginianus pallescens**. WESTERN HORNED OWL.— One collected at the G. O. S. Ranch, Oct., 1906, and many Horned Owls heard during every other trip, which were presumably of this race.

19. **Ceryle alcyon alcyon**. BELTED KINGFISHER.— Seen every year along the larger streams, in moderate numbers. Latest date, Oct. 16, 1909.

20. **Dryobates villosus leucothorectis**. WHITE-BREASTED WOODPECKER.— Many seen during each trip, all supposedly of this race. One taken Oct. 23, 1910, at the G. O. S. Ranch was so identified by an authority.

21. **Sphyrapicus varius nuchalis**. RED-NAPED SAPSUCKER.— One taken Oct. 19, 1910, at the G. O. S. Ranch.

22. **Sphyrapicus thyroideus**. WILLIAMSON'S SAPSUCKER.— One taken in Rocky Canyon, Oct., 1906, and on Oct. 10, 1909, at the G. O. S. Ranch.

23. **Melanerpes formicivorus formicivorus**. ANT-EATING WOODPECKER.— Common over the entire area.

24. **Asyndesmus lewisi**. LEWIS'S WOODPECKER.— One seen Oct. 24, 1908, at the G. O. S. Ranch, and one at the forking of Diamond Creek, Oct. 16, 1909.

25. **Colaptes cafer collaris**. RED-SHAFTED FLICKER.— Abundant over the entire area.

26. **Phalænoptilus nuttalli nitidus**. FROSTED POOR-WILL.— One seen at the G. O. S. Ranch Oct. 24, 1911, despite the fact that there had been severe frosts each of the preceding four nights, the days, however, being bright and warm.

27. **Sayornis sayus**. SAY'S PHŒBE.— Seen at the G. O. S. Ranch each October; latest date, Oct. 6, 1911.

28. **Cyanocitta stelleri diademata**. LONG-CRESTED JAY.— Abundant over the entire area.

29. **Aphelocoma woodhousei**. WOODHOUSE'S JAY.— Seen occasionally at the G. O. S. Ranch.

30. **Corvus cryptoleucus**. WHITE-NECKED RAVEN.— A few ravens seen occasionally in different parts of the area, which, presumably, were of this race.

31. **Corvus brachyrhynchos hesperis**. WESTERN CROW.— A small flock observed Oct. 16, 1909, at the confluence of Beaver Creek and the Gila.

32. **Nucifraga columbiana**. CLARK'S NUTCRACKER.— One seen Oct. 23, 1910, at the G. O. S. Ranch.

33. **Cyanocephalus cyanocephalus**. PIÑON JAY.— Abundant over the entire area, especially about the lower streams.

34. **Xanthocephalus xanthocephalus**. YELLOW-HEADED BLACKBIRD.— Two seen at the G. O. S. Ranch, Oct. 9, 1911.

35. **Agelaius phœniceus neutralis**. SAN DIEGO RED-WING.— Redwings in flocks about the G. O. S. Ranch, presumably of this race, all of each October.

36. **Sturnella neglecta**. WESTERN MEADOWLARK.— One seen Oct. 13, 1908, on Indian Creek, and one in Ring Canyon, Oct. 20, 1908.

37. **Euphagus cyanocephalus**. BREWER'S BLACKBIRD.— In flocks each year at the G. O. S. Ranch, and immediate vicinity. Latest date, Oct. 27, 1907.

38. **Pinicola enucleator montana**. ROCKY MOUNTAIN PINE GROSBEAK.— Observed frequently all over the area, above 7000 feet, in Oct., 1907, and a few seen on Iron Creek, Oct. 20, and at the head of Rocky Canyon, Oct. 14, 1909.

39. **Carpodacus mexicanus frontalis**. HOUSE FINCH.— Noticed at the G. O. S. Ranch, Oct. 10, 1909, and Oct. 21 and 23, 1910.

40. **Loxia curvirostra stricklandi**. MEXICAN CROSSBILL.— Seen in moderate numbers all over the area, each October, above 7000 feet.

41. **Astragalinus tristis pallidus**. PALE GOLDFINCH.— One seen at the G. O. S. Ranch, Oct. 3, 1911.

42. **Astragalinus psaltria psaltria**. ARKANSAS GOLDFINCH.— Noted the G. O. S. Ranch, Oct. 27, 1908.

43. **Spinus pinus**. PINE SISKIN.— A small flock seen at the G. O. S. Ranch, Oct. 8, 1908.

44. **Poœcetes gramineus confinis**. WESTERN VESPER SPARROW. — One taken at the G. O. S. Ranch, Oct. 3, 1911.

45. **Zonotrichia leucophrys gambeli**. GAMBEL'S SPARROW.— Seen in large numbers at the Alum Camp, Oct. 6, 1907, and Oct. 21, 1908, and at the G. O. S. Ranch, Oct. 8, 1911.

46. **Zonotrichia coronata**. GOLDEN-CROWNED SPARROW.— One taken at the G. O. S. Ranch Oct. 8, 1911, and more noted at the same place all of the succeeding week.

47. **Spizella passerina arizonæ.** WESTERN CHIPPING SPARROW.— Several seen at the G. O. S. Ranch, Oct. 8, 1911.

48. **Passer domesticus.** ENGLISH SPARROW.— The local occurrence of this exotic furnishes a typical example of its advent and spread in a new location. There were none about the G. O. S. Ranch in October of 1906, 1907, or 1908, although it was common at Silver City (air line about 20 miles southwest) between which city and the Ranch, tower the Pinos Altos Mountains; and there were a few at the same time at Fort Bayard. In October, 1909, the writer saw a flock of eight at the G. O. S. Ranch (the first ever seen there): all but one of this flock were killed. In October, 1910, there was a larger flock at the G. O. S. Ranch, and in addition, the species was detected at the Lower G. O. S. Ranch, situate about nine (9) miles down the Sapello Creek. As many of these birds as possible were killed at this time. In October, 1911, there were a great many more seen at the G. O. S. Ranch, and the writer felt then that the species had succeeded in firmly establishing itself in the Sapello Valley. Fort Bayard is, in an air line, about fourteen (14) miles southerly from the G. O S. Ranch, and there is a spur of the Pinos Altos Mountains intervening, the spur having an altitude of about 7700 feet — (there being 1600 feet difference in altitude between Fort Bayard and the top of this spur). It is doubtful that this sparrow would deliberately venture, in one effort, over this height and distance, since it would have to do so in a single stage, as it were, because there are practically no houses in the stretch of country between the two points. It is also somewhat improbable that the bird spread northwesterly from Silver City to the Gila, thence up the stream to the Sapello, and to the G. O. S. Ranch, as this would necessitate its going over territory practically uninhabited. The fact that it was detected at the G. O. S. Ranch before being noted at the Lower G. O. S. Ranch also militates against this idea. The most reasonable route by which the species probably spread is from Fort Bayard to Fierro, thence to the Mimbres River and across the Mimbres-Sapello Divide (altitude 6500 feet), and down the Sapello. An alternate route would be from Fort Bayard to Santa Rita, to Georgetown, the Mimbres Valley, and thence, as before, up the Mimbres. Both of these ways provide, all along, a number of farms, etc., at no excessive intervals, a condition which confessedly facilitates the spread of this bird. Yet the writer is by no means convinced that it did not come directly over the Pinos Altos Mountains, or its Eastern spurs, from the town of Pinos Altos (air line = 12 miles), or Fort Bayard (air line = 14 miles), or Fierro (air line = 10 miles), to the G. O. S. Ranch. The melancholy fact remains that this pest seems to have fixed itself permanently in the Sapello Valley.

49. **Junco hyemalis connectens.** SHUFELDT'S JUNCO.— One taken at the G. O. S. Ranch, Oct. 9, 1910.

50. **Junco hyemalis mearnsi.** PINK-SIDED JUNCO.— Many seen on each trip over all the region. Earliest date, Oct. 16, 1907, and the latest date, Oct. 21, 1907.

51. **Junco hyemalis annectens**. Ridgway's Junco.— A number seen at the G. O. S. Ranch, Oct. 13, 1907.

52. **Junco phæonotus dorsalis**. Red-backed Junco.— Seen in considerable numbers over the entire area, each trip. Earliest date, Oct. 5, 1908, and the latest, Oct. 17, 1908.

53. **Amphispiza nevadensis nevadensis**. Sage Sparrow.— One taken at the G. O. S. Ranch, Oct. 7, 1911.

54. **Pipilo maculatus montanus**. Spurred Towhee.— One taken at the G. O. S. Ranch, Oct. 7, 1911.

55. **Pipilo fuscus mesoleucus**. Cañon Towhee.— Common at the G. O. S. Ranch each October. Latest record, Oct. 29, 1907.

56. **Oreospiza chlorura**. Green-tailed Towhee.— Noted at the G. O. S. Ranch, Oct. 22, 1910.

57. **Petrochelidon lunifrons lunifrons**. Cliff Swallow.— Seen at the junction of Beaver Creek and the Gila, Oct. 16, 1909.

58. **Hirundo erythrogastra**. Barn Swallow.— Noted at the G. O. S. Ranch, Oct. 13, 1907.

59. **Dendroica auduboni auduboni**. Audubon's Warbler.— Noted at the G. O. S. Ranch, Oct. 22, 1910, and Oct. 8, 1911.

60. **Cinclus mexicanus unicolor**. Water Ousel.— A pair seen Oct. 16, 1908, on the upper reaches of the West Fork of the Gila, and one seen Oct. 19, 1909, at the junction of the Middle Fork of the Gila and Iron Creek.

61. **Salpinctus obsoletus obsoletus**. Rock Wren.— Seen each trip along the larger streams, the latest on Black Canyon, Oct. 15, 1909.

62. **Catherpes mexicanus conspersus**. Cañon Wren.— One taken on the West Fork of the Gila, Oct. 27, 1909.

63. **Certhia familiaris montana**. Rocky Mountain Creeper.— Seen in 1906, and in 1910, in various localities in the area, latest date being Oct. 19, 1910.

64. **Sitta carolinensis nelsoni**. Rocky Mountain Nuthatch.— Common throughout the entire area.

65. **Sitta canadensis**. Red-breasted Nuthatch.— One taken at the G. O. S. Ranch, Oct. 19, 1910.

66. **Sitta pygmæa pygmæa**. Pygmy Nuthatch.— Seen over the area in all parts visited, throughout the entire month of October.

67. **Bæolophus wollweberi**. Bridled Titmouse.— One taken at the G. O. S. Ranch, Oct. 19, 1910.

68. **Penthestes gambeli gambeli**. Mountain Chickadee.— Common over the entire area.

69. **Regulus calendula calendula**. Ruby-crowned Kinglet.— One taken in Black Range, Oct. 5, 1909, on head of Black Canyon.

70. **Polioptila cærulea obscura**. Western Gnatcatcher.— A small flock seen Oct. 29, 1909, on Sapello-Gila Divide just above Alum Camp.

71. **Myadestes townsendi**. Townsend's Solitaire.— One seen on Clear Creek, Oct. 21, 1909.

72. **Hylocichla guttata auduboni**. AUDUBON'S HERMIT THRUSH.— Two taken in Rocky Canyon, Oct. 11, 1906.

73. **Hylocichla guttata nanus**. DWARF HERMIT THRUSH.— One taken on the Mimbres — Black Canyon Divide, Oct. 5, 1908.

74. **Planesticus migratorius propinquus**. WESTERN ROBIN.— Common over all the area, but not noted above 8000 feet.

75. **Sialia mexicana bairdi**. CHESTNUT-BACKED BLUEBIRD.— A number seen at the Alum Camp Oct. 16, 1907.

76. **Sialia currucoides**. MOUNTAIN BLUEBIRD.— Common over all the area, latest date being Oct. 17, 1908.

THE HAWAIIAN LINNET, *CARPODACUS MUTANS* GRINNELL.

BY JOHN C. PHILLIPS.

IN 'The Auk' for June, 1912, Mr. Grinnell gives a new name to the introduced linnet of the Hawaiian Isles. I propose to discuss briefly both the name itself and the specific value of the form named.

In the first place, the word itself, *mutans*, implies a very definite condition, namely, a sudden germinal variation expressed in the soma as a Mendelian dominant, dominant because it is not possible to conceive of a recessive character, getting the upper hand in the wild unless it is of marked selectional value.

The word mutation means "the act or process of changing" but in the biological sense which it has had since the time of de Vries, a very definite meaning has been given to it, often theoretical perhaps, but nevertheless quite clear. Unfortunately the word has been misapplied to little understood types of variation,— for instance, to rare Mendelian combinations, to the loss of one or more characters from the germ cells, to the products of disease, etc., etc.

The name *Carpodacus mutans*, then, would imply that the following experimental conditions must hold. First the new form must breed true, or as true as the old, even when taken back to its original continental range. Second, in crosses with typical orange